

Patent Claims

1. A radiation-emitting and/or radiation-receiving semiconductor component comprising a radiation-emitting and/or radiation-receiving semiconductor chip, a molded plastic body which is transparent to an electromagnetic radiation to be emitted and/or received by the semiconductor component and by which the semiconductor chip is at least partially overmolded, and external electrical leads that are electrically connected to electrical contact areas of the semiconductor chip,  
characterized in that  
said molded plastic body is made of a reaction-curing silicone molding compound.
2. The semiconductor component as in claim 1,  
characterized in that  
said silicone molding compound has a curing time of 10 minutes or less.
3. The semiconductor component as in claim 1 or 2,  
characterized in that  
said silicone molding compound has a hardness when cured of 65 Shore D or more.
4. The semiconductor component as in claims 1 to 3,  
characterized in that  
said silicone molding compound is a silicone composite material.
5. The semiconductor component as in one of claims 1 to 4,  
characterized in that  
said silicone molding compound contains a conversion material that absorbs at least a portion of an electromagnetic radiation of a first wavelength range emitted by the semiconductor chip and/or received by the semiconductor component and emits electromagnetic radiation of a second wavelength range that is different from the first wavelength range.

6. The semiconductor component as in at least one of claims 1 to 5,  
characterized in that  
the semiconductor chip emits electromagnetic radiation in the blue or ultraviolet region of  
the spectrum.
7. The semiconductor component as in at least one of claims 1 to 6,  
characterized in that  
it has a footprint of approximately 0.5 mm x 1.0 mm or less.
8. The semiconductor component as in at least one of claims 1 to 7,  
characterized in that  
it has a total component height of 350 µm or less, preferably 250 µm or less.
9. A method of making a semiconductor component as in at least one of claims 1 to 6,  
characterized in that
  - the semiconductor chip is attached to a metallic leadframe, a carrier substrate or a  
carrier sheet comprising the external electrical leads,
  - the semiconductor chip, including subregions of the leadframe, the carrier substrate  
or the carrier sheet, is placed in a cavity of an injection mold,
  - silicone molding compound is injected into the cavity via an injection molding  
process or a transfer molding process,
  - the silicone molding compound is cured in the cavity at least such that a shape-  
stable molded plastic part is formed.